

Remarks

Applicants previously elected species II for purposes of examination. The claims that are readable on species II are 1-15. The Examiner has found two patentably distinct species of the invention with species I being represented by Figure 4 and species II being represented by Figures 5 and 6. The Examiner stated that claims 1-4, 7-11 and 14-17 are generic. The independent claims are 1, 8, 12 and 14.

The objections to claims 5, 9 and 12 have been addressed by corrections of the noted informalities.

In the Office Action dated 2-20-04 the Examiner rejected claims 1-3 and 8 under section 102(b) as being anticipated by EP 457278 (Shibata, et al.). It is noted that US patent **5,247,413** appears to be a counterpart to EP 457278, since both claim priority to JP 0125852 filed May 16, 1990. Claims 12-17 have been allowed. Claims 4-7 and 9-11 have been objected to as being dependent on a rejected claim and would otherwise be allowable if rewritten in independent form. Claim 8 has been amended to include all of the limitations of original dependent claim 9 which was indicated to be allowable.

In rejecting claims 1-3, the Examiner interpreted Applicants' "electrically conductive shield" element to be the same as the upper shield 29 in EP'728. The Examiner likewise interpreted EP'278 as teaching a head including an element 28 which the Examiner refers to as a "magnetic shield." It is respectfully submitted the Examiner erred in both of these interpretations. Element 28 is not a shield since EP'728 clearly describes element 28 as a "bias conductor." (See EP'728 col. 6, line 6 referring to Figure 2). The bias conductor 28 is mentioned in the description of prior art as being used to apply a magnetic bias to the MR sensor. (See EP'728 col. 1, line 44). Note that the bias connector 28 does not extend to the air-bearing surface as the magnetic shields need to do. The magnetic shields in EP'728 are elements 23 and 29 and extend to the air-bearing surface. The upper shield 29 is electrically connected to the sensor 25 through the electrode 27A and non-magnetic connecting conductor 33.

Applicants have amended claim 1 to clarify the claimed invention and to further distinguish over EP'728. The amendment adds reference to a second magnetic shield and indicates that the first and second shields extend to the air-bearing surface. The amendment further clarifies that the "electrically conductive shield" is electrically isolated

from both magnetic shields. The amendment also clarifies that the electrically conductive shield is electrically connected to a contact pad which provides "an external electrical connection to the electrically conductive shield." In addition, the Applicants claim specifies that the electrically conductive shield is disposed so that one of the magnetic shields lies between the electrically conductive shield and the magnetic sensor. The amended claim clearly distinguishes over EP'728 since it requires that the electrically conductive shield be electrically isolated from the two magnetic shields which extend to the air-bearing surface.

The upper shield (element 29) of EP'728 does not satisfy Applicants claimed element of an electrically conductive shield that is electrically isolated from the two magnetic shields. The upper shield 29 is one of the magnetic shields and cannot be electrically isolated from itself.

The lower shield (element 23) of EP'728 is not disposed as the electrically conductive shield as specified in claim 1 in that the lower shield 23 is not separated from the magnetic sensor 25 by a magnetic shield and there is no teaching in EP'728 that the lower shield 23 is connected to an external connection pad as Applicants claim.

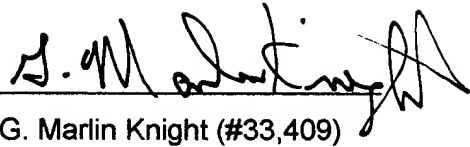
The bias connector (element 28) of EP'728 is the same as Applicants' claimed electrically conductive shield since it is not disposed as specified in claim 1 in that the bias connector 28 is not separated from the magnetic sensor 25 by a magnetic shield which extends to the air-bearing surface and there is no teaching in EP'728 that the bias connector 28 is connected to an external connection pad as Applicants claim.

Claims 2 and 3 depend from claim 1 and are believed to be allowable for the same reasons that claim 1 is allowable.

Conclusion:

The amendments to the claims and the arguments above are believed to overcome the objections and rejections and to place the case in condition for allowance.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "G. Marlin Knight", written over a horizontal line.

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